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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,492	09/18/2003	Jong-Kook Lim	0001438/3062USU	4840

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EXAMINER	
HOPKINS, ROBERT A	
ART UNIT	PAPER NUMBER

1724

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/664,492

Applicant(s)

LIM ET AL.

Examiner

Robert A. Hopkins

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-21 is/are allowed.
- 6) ☒ Claim(s) 1-3, 7, 9, 10, 12 and 13 is/are rejected.
- 7) ☒ Claim(s) 4-6, 8 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12-3-04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,7,9,10,12 are rejected under 35 U.S.C. 102(e) as being anticipated by Sepke(6558453).

Sepke teaches a cyclone dust collecting apparatus comprising an upper casing(116;figure 4a) having an air suction port(130) formed thereon, a lower casing(106) connected to the upper casing to form a cyclone chamber, a guide unit(118; figure 5a) disposed between the upper and lower casing, and having a first channel(144) for swirling a dirt laden air drawn in through the air suction port, and a second channel(143) for discharging a cleaned air therethrough, and a filter assembly(114) mounted between the guide unit and the lower casing(see figure 1b), for removing dirt and dust from the air. Sepke further teaches wherein the filter assembly comprises a grill(197) for filtering out the dust and dirt of the air and a supporting frame(191) for supporting the grill. Sepke further teaches a locking device(178) for securing the upper casing and the lower casing to each other. Sepke further teaches wherein the locking device comprises a protrusion formed in a side of the upper casing

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and a locking member disposed at a side of the lower casing and being locked with the protrusion. Sepke further teaches wherein the upper casing is provided with a handle(115).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sepke et al(6558453) taken together with Oh et al(6406505).

Sepke et al teaches all of the limitations of claim 2 but is silent as to wherein the lower casing is provided with a plurality of dust collecting chambers formed in both sides thereof, for collecting the dust and dirt separated from the air. Oh et al teaches a cyclone dust collecting apparatus including a lower casing(11) connected to a guide unit(17), the guide unit including a first channel(17a) for swirling a dust laden air, and a second channel(17b) for discharging a cleaned air, a filter assembly(17c) mounted between the guide unit and lower casing, and wherein the lower casing is provided with a plurality of dust collecting chambers(13) formed in both sides thereof, for collecting the dust and dirt separated from the air. It would have been obvious to someone of ordinary skill in the art at the time of the invention to provide a plurality of dust collecting chambers formed in both sides of the lower casing of Sepke et al to provide easier removal of the collected dust and dirt after a cyclonic operation is completed.

Oh et al further teaches wherein the dust collecting chambers are partitioned off from the cyclone chamber by a partition(see rear side of collecting chamber in figure 2), and the partition has a connecting port(11c) for allowing dust and dirt to move therethrough.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sepke et al(6558453).

Sepke et al teaches all of the limitations of claim 13 but is silent as to wherein between the air suction port of the upper casing and the guide unit is provided a sealing member. Examiner respectfully submits that sealing members between adjacent surfaces of an air filtering unit are common in order to prevent leakage, therefore it would have been obvious to someone of ordinary skill in the art at the time of the invention to provide a sealing member between the air suction port of the upper casing and the guide unit so that airflow does not leak when flowing through to the guide unit.

***Allowable Subject Matter***

Claims 4-6,8,11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 4 recites "wherein the guide unit comprises: an upper guide member having a first opening to closely contact with the air suction port of the upper casing and a first duct; and a lower guide member connected to the upper guide member and having a second opening and a second duct; and the first opening and the second duct form the first channel and the first duct and the second opening form the second

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channel". Sepke et al teaches a guide unit having a unitary structure. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a guide unit which comprises: an upper guide member having a first opening to closely contact with the air suction port of the upper casing and a first duct; and a lower guide member connected to the upper guide member and having a second opening and a second duct; and the first opening and the second duct form the first channel and the first duct and the second opening form the second channel because Sepke et al does not teach such a modification. Claims 5 and 6 depend on claim 4 and hence would also be allowable upon incorporation of claim 4 into claim 1.

Claim 8 recites "wherein the filter assembly further comprises an upper frame connected to an upper end of the grill at one side, and connected to the second opening at the other side, and a lower frame connected to a lower end of the grill. Sepke et al teaches a lower frame connected to a lower end of the grill, but does not teach an upper frame connected to an upper end of the grill at one side. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide an upper frame connected to an upper end of the grill at one side, and connected to the second opening at the other side, and a lower frame connected to a lower end of the grill because Sepke et al does not teach such a modification.

Claim 11 recites "wherein the upper casing and the lower casing are hinged on each other at one side". Sepke et al fails to teach wherein the upper casing and the lower casing are hinged on each other at one side. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide an upper

casing and the lower casing which are hinged on each other at one side because Sepke et al does not teach such a modification.

Claims 14-21 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

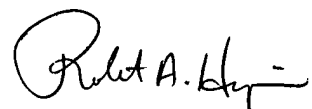
Claim 14 recites " an upper guide member disposed between the upper and lower casing and having a first opening closely contacting with the air suction port of the upper casing and a first duct; a lower guide member connected to the upper guide member and having a second opening and a second duct; ... and the first opening and the second duct form the first channel and the first duct and the second opening form the second channel". Sepke et al teaches a guide unit having a unitary structure. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide an upper guide member disposed between the upper and lower casing and having a first opening closely contacting with the air suction port of the upper casing and a first duct; a lower guide member connected to the upper guide member and having a second opening and a second duct; ... and the first opening and the second duct form the first channel and the first duct and the second opening form the second channel because Sepke et al does not teach such a modification. Claims 15-21 depend on claim 14 and hence are also allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Hopkins whose telephone number is 571-272-1159. The examiner can normally be reached on Monday-Friday, 7am-4pm, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rah  
March 24, 2005

  
**ROBERT A. HOPKINS**  
**PRIMARY EXAMINER**  
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